## Addenda FDA Briefing Package

Division of Pulmonary and Allergy Products
Office of New Drugs
Office of Drug Evaluation II

Office of Surveillance & Epidemiology

Joint Meeting of the Pulmonary-Allergy Drugs Advisory Committee and Drug Safety and Risk Management Committee March 10-11, 2010



Department of Health and Human Services Public Health Service Food and Drug Administration Center for Drug Evaluation and Research Office of Surveillance and Epidemiology

Date: February 16, 2010

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Subject: Long Acting Beta Agonists (LABA) Drug Utilization Review

Drug Name(s): Advair products (fluticasone/salmeterol), Symbicort

(budesonide/formoterol), Serevent products (salmeterol),

Foradil (formoterol), inhaled corticosteroids

Application Type/Number: multiple
Applicant/sponsor: multiple
OSE RCM #: 2010-207

### **EXECUTIVE SUMMARY**

Utilization data for long acting beta agonists (LABAs), salmeterol and formoterol, were requested by the Division of Pulmonary & Allergy Products in support of the FDA's Pulmonary-Allergy Drug Products Advisory Committee meeting to be held on March 10-11, 2010 to discuss the design of a study to evaluate the safety of LABA-containing products when added to inhaled corticosteroids (ICS) compared to ICS alone in patients with asthma. This analysis is focused on use of LABA-containing products but includes inhaled corticosteroid use, by patient ages (pediatric: 0-11 years and adolescent/adult: 12+ years old) for the eight year period from year 2002 to year 2009.

Results from year 2002 to year 2009, with a focus on year 2009:

- The total number of LABA-containing prescriptions increased from ~15.6 million prescriptions to ~21.7 million prescriptions from year 2002 to 2009, accounting for ~17% of the asthma market in year 2009. In year 2009, over 95% of LABA-containing products were dispensed as combination LABA products, salmeterol/fluticasone and budesonide/fluticasone. Dispensed prescriptions for combination LABA products increased while prescriptions for single-agent LABA products decreased from year 2002 to 2009.
- There were ~873,000 prescriptions (~4% of LABA market) dispensed for LABA-containing products to the pediatric population (ages 0-11 yrs) in year 2009.
- Salmeterol/fluticasone prescriptions were the third most frequently dispensed asthma medication and the top LABA-containing product dispensed with ~18.1 million prescriptions (~14% of asthma market) for the overall population.
- There were ~532,000 single-agent salmeterol prescriptions dispensed to the overall population (~0.4% of asthma market) in year 2009, a decrease from ~5 million prescriptions (~4.7% of asthma market) in year 2002.
- Salmeterol/fluticasone was the sixth most frequently dispensed asthma medication in the pediatric population with ~740,000 prescriptions (~3.3% of pediatric asthma market) during year 2009, a decrease from ~780,000 prescriptions (~4.0% of pediatric asthma market) in year 2002.
- Salmeterol/fluticasone use in the 12 years and older population increased sharply from ~9.4 million prescriptions in year 2002, to ~17 million prescription in year 2006 and remained roughly at that level through year 2009,
- The total number of unique patients who received a prescription for a LABA-containing product increased from ~4.9 million patients to ~6.2 million patients from year 2002 to 2009. The number of pediatric patients decreased from ~409,000 patients (~8.3% of patients receiving a LABA-containing product) to ~322,000 patients (~5.2% of patients receiving a LABA-containing product) during the same time period. Patient trends reflected dispensed prescription trends.
- "General Practice/Family Medicine" was the top prescribing specialty for salmeterol and formoterol products in the total population.
- "Asthma NOS" was the top diagnosis associated with the use of LABA-containing products for both populations, though ~22% of drug use mentions for LABA-containing products in the 12+ year population were for "COPD".
- From year 2002 to 2009, the number of dispensed ICS prescriptions in the pediatric population increased from ~3.9 million prescriptions (16.5% of the total ICS market) to ~5.2 million prescriptions (16.1% of the total ICS market). Single agent budesonide was the top ICS product in the pediatric market. Salmeterol/fluticasone combination products were the top ICS containing products in the 12+ years ICS market. Fluticasone was the most frequently dispensed single-agent ICS in both populations.

### 1 INTRODUCTION

The Division of Pulmonary and Allergy Products is conducting an Advisory Committee on March 10-11, 2010 to discuss the design of a safety study to determine the safety of two long acting beta-agonists (LABAs), salmeterol and formoterol, when added to inhaled corticosteroids (ICS) compared to ICS alone in patients with asthma. The Division of Epidemiology, in support of this review, has been requested to provide utilization data for LABA-containing products and ICS products in the pediatric (0-11 years old) and adolescent and adult population (12+ years) from year 2002 to 2009.

### 2 METHODS AND MATERIAL

### 2.1 DETERMINING SETTINGS OF CARE AND DATA SOURCES USED

We examined the wholesale distribution data for salmeterol- and formoterol-containing products, two LABAs, for year 2009 to determine the distribution pattern for these products. Overall, salmeterol and formoterol-containing products were distributed mainly to outpatient retail pharmacy channels at ~55% of the market share. Mail service was second in market share at ~30%, followed by non-retail pharmacy channels at ~15% during year 2009. Thus, outpatient retail pharmacy settings, excluding mail order, were assessed to provide utilization patterns. Outpatient retail pharmacy settings include chain, independent, food stores with pharmacies.

### 2.2 DATA SOURCES USED

Proprietary drug use databases licensed by the Agency were used to conduct this analysis. The estimated number of prescriptions dispensed and unique patients for LABA-containing products was obtained from the SDI, Vector One®: National (VONA) and SDI, Vector One®: Total Patient Tracker (TPT) databases for years 2002 to 2009. Diagnoses, as mentioned by office-based physician practices around the country, were obtained from the SDI, Physician's Drug and Diagnosis Audit (PDDA) (see *Appendix 1* for full database descriptions).

### 3 DATA

## 3.1 LABA-CONTAINING PRODUCTS: SALMETEROL- OR FORMOTEROL-CONTAINING PRESCRIPTIONS IN THE ASTHMA MARKET

#### **ALL AGES**

Table 1 and Figure 1 in Appendix 2 show the top asthma prescriptions dispensed from U.S. outpatient retail pharmacies from years 2002 to 2009. The total dispensed prescriptions in the asthma market increased from ~107 million prescriptions to ~129 million prescriptions from year 2002 to 2009. Salmeterol/fluticasone products consistently remained the third most frequently dispensed medication in the asthma market, increasing in market share from ~9.5% (~10.2 million prescriptions of ~107 million asthma prescriptions) in year 2002 to ~14% (~18.1 million prescription s of ~129 million asthma prescriptions) of the asthma market in year 2009. Dispensed prescriptions for salmeterol/fluticasone increased from year 2002 to 2006 before stabilizing in growth. The second most frequently dispensed LABA-containing product in the asthma market were single-agent salmeterol products which accounted for ~1.6% of the asthma market (~15 million prescriptions of~948 million total asthma prescriptions) for the combined entire length of the examined time period. However, single agent salmeterol prescriptions decreased from ~4.7% (~5 million prescriptions of ~107 million asthma prescriptions) of the market share in year 2002 to ~0.4% (~532,000 prescriptions of ~129 million asthma prescriptions) of the market share in year 2009.

### PEDIATRIC AGES 0-11 YEARS

Table 2 in Appendix 2 shows the number of dispensed asthma market prescriptions by patient age. The pediatric population (ages 0-11 yrs) accounted for ~18% of the total asthma market in year 2009 and for the

<sup>&</sup>lt;sup>1</sup> IMS Health, IMS National Sales Perspectives<sup>TM</sup>, Years 2002- 2009, Extracted 02/2010. File: 1002lab1.xls

entire combined study period. Figure 2 in Appendix 2 shows the top asthma medications dispensed for the pediatric population (0-11 years old) from U.S. outpatient retail pharmacies. In the pediatric population, salmeterol/fluticasone products were the sixth most frequently dispensed asthma product at ~3.3% (~741,000 prescriptions of ~22.7 million pediatric asthma prescriptions) of the pediatric asthma market in year 2009. (Appendix 2: Figure 2)

# 3.2 LABA-CONTAINING PRODUCTS: DISPENSED PRESCRIPTIONS FOR SALMETEROL OR FORMOTEROL CONTAINING PRODUCTS

### **ALL AGES**

Table 3 in Appendix 2 shows the total number of dispensed prescriptions for salmeterol- and formoterol-containing products (LABAs) from U.S. retail pharmacies stratified by patient age (0-11 and 12+ years), molecule, product and strength in for years 2002 to 2009. The total LABA market increased from ~15.6 million prescriptions to ~21.7 million dispensed prescriptions from year 2002 to 2009. The LABA market accounted for ~17% (~21.7 million LABA prescriptions of ~129 million asthma prescriptions) of the asthma market in year 2009.

### PATIENT AGE GROUP: PEDIATRIC AGES 0-11 YEARS

LABA prescriptions dispensed to the pediatric population accounted for ~4% (~873,000 prescriptions of ~21.7 million LABA prescriptions) of the total LABA market in year 2009. Salmeterol/fluticasone products were the most frequently dispensed LABA product accounting for ~85% of the pediatric (0-11 year old) LABA market (~740,000 prescriptions of 873,000 pediatric LABA prescriptions) in year 2009. Although there was an increase in the use of salmeterol/fluticasone beginning in year 2002, use actually decreased down from ~780,000 prescriptions in year 2002 to ~740,000 prescriptions in year 2009 in the pediatric population. Single-agent salmeterol and single-agent formoterol product use has decreased over the examined time in the pediatric population

### PATIENT AGE GROUP: 12 YEARS AND OLDER

Salmeterol/fluticasone products were the most frequently dispensed LABA-containing product, accounting for ~83% in the adult (12+ years) population (~17.3 million prescriptions of ~20.8 million adult LABA prescriptions) in year 2009. Prescriptions dispensed to patients aged 12 years old and older increased from ~9.4 million prescriptions to ~17.3 million prescriptions over the study period, with the greatest increase seen from year 2002 to 2006. Proportionally, single-agent salmeterol and single-agent formoterol use has decreased over the examined time though the actual number of formoterol prescriptions increased slightly from year 2002 to 2009.

# 3.3 LABA-CONTAINING PRODUCTS: UNIQUE PATIENTS FOR SALMETEROL OR FORMOTEROL PRODUCTS

There was a cumulative total of ~23.2 million unique patients who received a prescription for a LABA-containing product from outpatient retail pharmacies during years 2002 to 2009. The number of unique patients on LABA-containing products increased from ~4.9 million patients to ~6.2 million patients from year 2002 to 2009. The pediatric population accounted for ~5.2% (~322,000 patients) of the patients receiving a LABA-containing product in year 2009, a decrease from ~8.3% (~409,000 patients) in year 2002. The greatest number of patients received salmeterol/fluticasone products in both patient age groups. Patient data trends reflected the dispensed prescription trends (Table 4: Appendix 2).

### 3.4 LABA-CONTAINING PRODUCTS DISPENSED PRESCRIPTIONS BY PRESCRIBING SPECIALTY

Table 5 in Appendix 2 shows the top prescribing specialties for LABA-containing products by number of dispensed prescriptions. "General Practice/Family Medicine" was the top prescribing specialties in the total population with ~30% of all prescriptions dispensed during the cumulative review period for years 2002 to 2009. "Internal Medicine" was second with ~23% of all dispensed prescriptions. The "Pediatrics" specialty accounted for ~7% of all dispensed prescriptions over the entire cumulative review period.

### 3.5 LABA-CONTAINING PRODUCT USE RELATED DIAGNOSIS

Table 6 in Appendix 2 shows the most common diagnoses associated with LABA-containing product use as reported by a survey of office-based physician practices around the United States by 4 digit ICD-9 codes. For the cumulative years 2002 to 2009, the top diagnosis code was "Asthma NOS" (ICD-9 493.9) for both pediatric patients aged 0-11 years old (~80% of drug use mentions) and patients aged 12 years and greater (~56% of drug use mentions). Approximately 22% of the LABA-containing product drug use mentions for patients aged 12 years and greater was for the diagnosis "Chronic Airway Obstruct NEC" (ICD-9 496.0) or COPD.

### 3.6 INHALED CORTICOSTEROID PRODUCTS DISPENSED PRESCRIPTIONS

Table 7a and 7b in Appendix 2 shows the total number of inhaled corticosteroid (ICS) prescriptions dispensed from U.S. outpatient retail pharmacies from years 2002 to 2009, stratified by patient age (0-11 and 12+ years), molecule, product and strength. ICS prescriptions dispensed to pediatric patients 0-11 years old accounted for ~17% (~37.5 million prescriptions of ~224 million ICS prescriptions) of the total ICS market for the cumulative time period. From year 2002 to 2009, the number of dispensed ICS prescriptions in this population increased from ~3.9 million prescriptions to ~5.2 million prescriptions. Single-agent budesonide products were the most frequently dispensed ICS product from years 2002 to 2009, accounting for a cumulative total of ~43% of the pediatric (0-11 year old) ICS market (~16.3 million prescriptions of ~37.5 million pediatric ICS prescriptions). During year 2009, single-agent budesonide products accounted for ~41% (~2.1 million prescriptions of ~5.2 million ICS prescriptions) of the ICS market in this population.

In the age 12+ year old population, salmeterol/fluticasone products were the most frequently dispensed prescription among the ICS containing products, accounting for a cumulative total of ~66% of the 12+ years ICS market (~123 million prescriptions of ~185 million ICS prescriptions). During year 2009, salmeterol/fluticasone products accounted for ~64% (~17.3 million prescriptions of ~27 million ICS prescriptions) of the ICS market in this population.

Single-agent ICS fluticasone products were the second most frequently dispensed product for both populations, accounting for a cumulative total of ~11.1 million prescriptions (30%) for the pediatric ICS market and ~30.2 million prescriptions (16%) for the 12+ year old ICS market during years 2002 to 2009. During year 2009, single-agent ICS fluticasone products accounted for ~1.6 million prescriptions dispensed (31%) for the pediatric ICS market and ~3.1 million prescriptions dispensed (12%) for the 12+ year old ICS market.

### 4 DISCUSSION AND LIMITATIONS

LABA-containing product use has increased along with the total asthma market during the examined time period. Use of salmeterol/fluticasone products increased sharply from year 2002 before stabilizing in growth in year 2006, though it consistently remained among the top three asthma medications in the total population. In the pediatric population, salmeterol/fluticasone use also increased from year 2002 to year 2005 but decreased starting in year 2006. Albuterol, montelukast, and single agent inhaled corticosteroids were more frequently dispensed in the pediatric population.

Total single-agent salmeterol use has also decreased since year 2002 in both patient populations. In a poster presented by Kaplan et.al, it was found that about half (~48%) of the patients in the studied population used salmeterol without concurrent use of an ICS, and ~30% of those patients, had no concurrent ICS use for greater than 31 days.<sup>2</sup> Although, single-agent salmeterol use has decreased since year 2002 for both populations, these findings suggest current LABA-containing product label recommendations and NAEPP Guidelines were not followed in this small proportion of asthmatic patients.

<sup>2</sup> Kaplan S, Ding Y, Mosholder A. Drug Concurrency Patterns among Asthma Patients Using Single-Ingredient LABA: A claims Data Study. Presented at "2009 International Society for Pharmacoepidemiology's 25<sup>th</sup> International Conference on Pharmacoepidemiology & Therapeutic Risk Management", Providence, Rhode Island.

Findings from this consult should be interpreted in the context of the known limitations of the databases used. We estimated that salmeterol and formoterol products are distributed primarily in outpatient retail settings based on the IMS Health, IMS National Sales Perspectives<sup>TM</sup>. These data do not provide a direct estimate of use but do provide a national estimate of units sold from the manufacturer into the various channels of distribution. The amount of product purchased by these retail and non-retail channels of distribution may be a possible surrogate for use, if we assume the facilities purchase drugs in quantities reflective of actual patient use. This review focuses primarily on the outpatient retail pharmacy market which captures ~55% of the total LABA-containing product market. Mail order and inpatient settings data, representing ~45% of the LABA-containing product market was not included in this review.

Indications for use were obtained using SDI's PDDA, a monthly survey of 3,200 office based physicians. Although PDDA data are helpful to understand how drug products are prescribed by physicians, the small sample size and the relatively low usage of these products limits the ability to identify trends in the data. In general, PDDA data are best used to identify the typical uses for the products in clinical practice, and the VONA outpatient prescription data to evaluate trends over time.

SDI uses the term "drug uses" to refer to mentions of a drug in association with a diagnosis during an office-based patient visit. This term may be duplicated by the number of diagnosis for which the drug is mentioned. It is important to note that a "drug use" does not necessarily result in prescription being generated. Rather, the term indicates that a given drug was mentioned during an office visit.

### 5 CONCLUSIONS

Total LABA-containing product use has increased since year 2002, along with the increase in the total asthma market. Within the asthma market, LABA-containing products were used less frequently in the pediatric population compared to the 12+ year old population for asthma. Salmeterol/fluticasone products has consistently ranked third among the top asthma medications in the overall population. A sharp increase in use was observed from year 2002 to year 2006, then stabilized in the 12+ year old population; however, there was a slight decline in use in the pediatric population. Albuterol, montelukast, and budesonide products were more frequently dispensed over the LABA-containing products in the pediatric population. Despite the decrease in use of the single-agent LABA-containing products, Kaplan et.al., found that nearly half of the patients studied used salmeterol without concurrent use of an ICS. These findings suggest current LABA-containing product label recommendations and NAEPP Guidelines are not followed in this small proportion of asthmatic patients.

### APPENDIX 1: DATABASE DESCRIPTIONS

### IMS Health, IMS National Sales Perspectives<sup>TM</sup>: Retail and Non-Retail

The IMS Health, IMS National Sales Perspectives<sup>TM</sup> measures the volume of drug products, both prescription and over-the-counter, and selected diagnostic products moving from manufacturers into various outlets within the retail and non-retail markets. Volume is expressed in terms of sales dollars, eaches, extended units, and share of market. These data are based on national projections. Outlets within the retail market include the following pharmacy settings: chain drug stores, independent drug stores, mass merchandisers, food stores, and mail service. Outlets within the non-retail market include clinics, non-federal hospitals, federal facilities, HMOs, long-term care facilities, home health care, and other miscellaneous settings.

### SDI Vector One®: National (VONA)

SDI's VONA measures retail dispensing of prescriptions or the frequency with which drugs move out of retail pharmacies into the hands of consumers via formal prescriptions. Information on the physician specialty, the patient's age and gender, and estimates for the numbers of patients that are continuing or new to therapy are available.

The Vector One<sup>®</sup> database integrates prescription activity from a variety of sources including national retail chains, mass merchandisers, mail order pharmacies, pharmacy benefits managers and their data systems, and provider groups. Vector One<sup>®</sup> receives over 2.0 billion prescription claims per year, representing over 160 million unique patients. Since 2002 Vector One<sup>®</sup> has captured information on over 8 billion prescriptions representing 200 million unique patients.

Prescriptions are captured from a sample of approximately 59,000 pharmacies throughout the US. The pharmacies in the data base account for nearly all retail pharmacies and represent nearly half of retail prescriptions dispensed nationwide. SDI receives all prescriptions from approximately one-third of the stores and a significant sample of prescriptions from the remaining stores.

## SDI Vector One®: Total Patient Tracker (TPT)

SDI's Total Patient Tracker is a national-level projected audit designed to estimate the total number of unique patients across all drugs and therapeutic classes in the retail outpatient setting.

TPT derives its data from the Vector One<sup>®</sup> database which integrates prescription activity from a variety of sources including national retail chains, mail order pharmacies, mass merchandisers, pharmacy benefits managers and their data systems. Vector One<sup>®</sup> receives over 2 billion prescription claims per year, which represents over 160 million patients tracked across time.

### SDI Physician Drug & Diagnosis Audit (PDDA) with Pain Panel

SDI's Physician Drug & Diagnosis Audit (PDDA) with Pain Panel is a monthly survey designed to provide descriptive information on the patterns and treatment of diseases encountered in office-based physician practices in the U.S. The survey consists of data collected from over 3,200 office-based physicians representing 30 specialties across the United States that report on all patient activity during one typical workday per month. These data may include profiles and trends of diagnoses, patients, drug products mentioned during the office visit and treatment patterns. The Pain Panel supplement surveys over 115 pain specialists physicians each month. With the inclusion of visits to pain specialists, this will allow additional insight into the pain market. The data are then projected nationally by physician specialty and region to reflect national prescribing patterns.

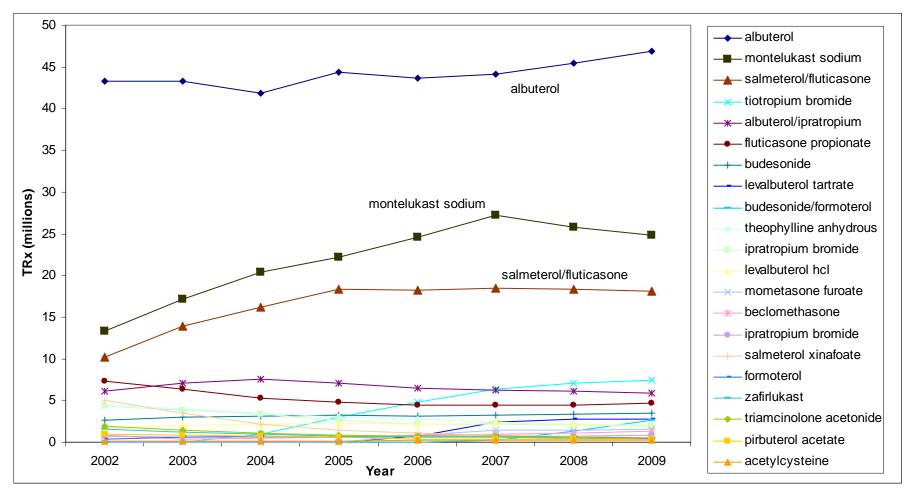
## **APPENDIX 2: TABLES AND FIGURES**

Table 1: Total Dispensed Prescriptions for Top Asthma Medications for the Overall Population from U.S. Outpatient Retail Pharmacies, Years 2002-2009

•	2002		2003	3	2004		2005	5	2006	6	2007	1	2008	}	2009		1/2002-12/	/2009
	TRxs	Share																
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
TOTAL MARKET	106,862,941	100%	110,505,934	100%	111,645,545	100%	117,001,602	100%	119,542,634	100%	126,251,776	100%	127,595,143	100%	128,709,708	100%	948,115,283	100%
albuterol	43,327,233	40.5%	43,275,417	39.2%	41,821,745	37.5%	44,367,256	37.9%	43,631,970	36.5%	44,130,163	35.0%	45,431,928	35.6%	46,825,342	36.4%	352,811,054	37.2%
montelukast sodium	13,259,586	12.4%	17,196,725	15.6%	20,435,068	18.3%	22,167,166	18.9%	24,611,082	20.6%	27,254,994	21.6%	25,787,471	20.2%	24,820,023	19.3%	175,532,115	18.5%
salmeterol/fluticasone	10,181,657	9.5%	13,931,094	12.6%	16,144,908	14.5%	18,289,379	15.6%	18,276,579	15.3%	18,515,465	14.7%	18,365,008	14.4%	18,116,514	14.1%	131,820,604	13.9%
tiotropium bromide					914,904	0.8%	2,938,078	2.5%	4,741,068	4.0%	6,395,550	5.1%	7,121,148	5.6%	7,394,103	5.7%	29,504,851	3.1%
albuterol/ipratropium	6,170,500	5.8%	7,092,552	6.4%	7,496,289	6.7%	7,074,149	6.0%	6,481,779	5.4%	6,193,591	4.9%	6,153,900	4.8%	5,933,081	4.6%	52,595,841	5.5%
fluticasone propionate	7,285,046	6.8%	6,333,051	5.7%	5,298,285	4.7%	4,749,215	4.1%	4,446,924	3.7%	4,384,232	3.5%	4,426,165	3.5%	4,734,362	3.7%	41,657,280	4.4%
budesonide	2,603,694	2.4%	3,026,713	2.7%	3,176,788	2.8%	3,178,991	2.7%	3,165,533	2.6%	3,248,327	2.6%	3,347,061	2.6%	3,434,930	2.7%	25,182,037	2.7%
levalbuterol tartrate							5,063	0.0%	712,629	0.6%	2,370,604	1.9%	2,737,795	2.1%	2,801,651	2.2%	8,627,742	0.9%
budesonide/formoterol											188,126	0.1%	1,366,390	1.1%	2,592,613	2.0%	4,147,129	0.4%
theophylline anhydrous	4,529,408	4.2%	4,010,394	3.6%	3,451,705	3.1%	2,942,739	2.5%	2,710,742	2.3%	2,456,786	1.9%	2,214,636	1.7%	1,993,397	1.5%	24,309,807	2.6%
ipratropium bromide	4,341,918	4.1%	3,792,749	3.4%	3,297,381	3.0%	2,668,444	2.3%	2,174,677	1.8%	2,163,288	1.7%	2,026,859	1.6%	1,909,240	1.5%	22,374,556	2.4%
levalbuterol hcl	1,698,975	1.6%	2,075,796	1.9%	2,151,026	1.9%	2,274,838	1.9%	2,206,836	1.8%	2,316,304	1.8%	2,166,016	1.7%	1,809,360	1.4%	16,699,151	1.8%
mometasone furoate							55,827	0.0%	780,853	0.7%	1,416,372	1.1%	1,484,336	1.2%	1,500,948	1.2%	5,238,336	0.6%
beclomethasone	864,003	0.8%	336,270	0.3%	433,067	0.4%	613,539	0.5%	840,137	0.7%	949,574	0.8%	1,057,329	0.8%	1,366,653	1.1%	6,460,572	0.7%
ipratropium bromide	683,054	0.6%	635,612	0.6%	633,722	0.6%	656,645	0.6%	676,656	0.6%	724,199	0.6%	761,356	0.6%	824,811	0.6%	5,596,055	0.6%
salmeterol xinafoate	5,005,037	4.7%	3,466,160	3.1%	2,180,914	2.0%	1,438,762	1.2%	1,047,763	0.9%	815,022	0.6%	672,777	0.5%	531,900	0.4%	15,158,335	1.6%
formoterol	415,372	0.4%	557,721	0.5%	680,972	0.6%	651,905	0.6%	715,301	0.6%	669,165	0.5%	594,172	0.5%	499,161	0.4%	4,783,769	0.5%
zafirlukast	1,553,416	1.5%	1,181,491	1.1%	939,663	0.8%	767,558	0.7%	651,494	0.5%	557,226	0.4%	482,409	0.4%	416,690	0.3%	6,549,947	0.7%
triamcinolone acetonide	1,904,245	1.8%	1,473,948	1.3%	1,058,078	0.9%	878,095	0.8%	765,367	0.6%	673,326	0.5%	576,853	0.5%	368,206	0.3%	7,698,118	0.8%
pirbuterol acetate	957,453	0.9%	809,765	0.7%	681,217	0.6%	571,987	0.5%	380,252	0.3%	349,505	0.3%	324,969	0.3%	301,595	0.2%	4,376,743	0.5%
acetylcysteine	91,341	0.1%	113,275	0.1%	154,252	0.1%	170,881	0.1%	181,798	0.2%	201,302	0.2%	209,981	0.2%	217,019	0.2%	1,339,849	0.1%

Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 top asthma drugs.xls

Figure 1: Total Dispensed Prescriptions for Top Asthma Medications for the Overall Population from U.S. Outpatient Retail Pharmacies, Years 2002-2009



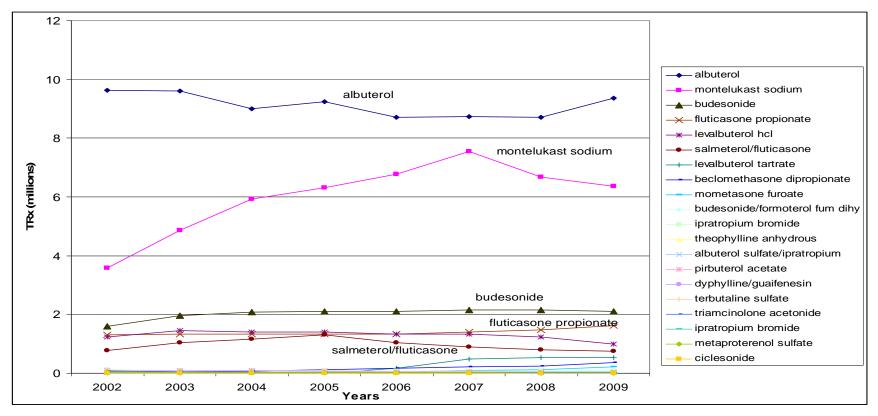
Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 top asthma drugs.xls

Table 2: Total Dispensed Prescriptions in the Asthma Market by Patient Age from U.S. Outpatient Retail Pharmacies, Years 2002-2009

	2002	2	2003	3	2004	4	2005	5	2000	6	2007	7	2008	3	2009		1/2002-12	2/2009
	TRxs	Share																
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Asthma Market	106,875,036	100.0%	110,509,299	100.0%	111,644,882	100.0%	117,001,532	100.0%	119,541,963	100.0%	126,251,746	100.0%	127,595,062	100.0%	128,709,599	100.0%	948,129,119	100.0%
Age: 0-11 years	19,283,334	18.0%	21,032,061	19.0%	21,515,691	19.3%	22,278,218	19.0%	22,046,762	18.4%	23,226,979	18.4%	22,368,438	17.5%	22,721,742	17.7%	174,473,225	18.4%
Age: 12+ years	86,971,226	81.4%	88,919,325	80.5%	88,961,403	79.7%	93,405,315	79.8%	96,794,671	81.0%	102,503,369	81.2%	104,767,925	82.1%	105,520,004	82.0%	767,843,238	81.0%
<b>Unspecified Age</b>	620,476	0.6%	557,913	0.5%	1,167,788	1.0%	1,317,999	1.1%	700,530	0.6%	521,398	0.4%	458,699	0.4%	467,853	0.4%	5,812,656	0.6%

Source: SDI Vector One<sup>®</sup>: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 top asthma drugs by age.xls

Figure 2: Total Dispensed Prescriptions for Top Asthma Medications for Pediatric Patients (0-11 years old) from U.S. Outpatient Retail Pharmacies, Years 2002-2009 (Table not shown)



Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 top asthma drugs by age.xls

Table 3: Part 1: Total Dispensed Prescriptions for Salmeterol and Formoterol Products (LABAs) by Patient Age (0-11 years old) from U.S. Outpatient Retail Pharmacies, Years 2002-2009

Molecule	Year 2	2002	Year 2	2003	Year 2	2004	Year 2	2005	Year 2	2006	Year 2	2007	Year 2	2008	Year 2	2009	1/2002-12	2/2009
Product	TRxs	Share	TRxs	Share														
Strength	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
TOTAL MARKET	15,602,186	100.0%	17,954,982	100.0%	19,006,786	100.0%	20,380,034	100.0%	20,039,310	100.0%	20,187,617	100.0%	20,998,185	100.0%	21,740,170	100.0%	155,909,270	100.0%
Age: 0-11 years	1,024,787	6.6%	1,201,790	6.7%	1,255,367	6.6%	1,378,617	6.8%	1,093,363	5.5%	951,145	4.7%	899,595	4.3%	872,780	4.0%	8,677,444	5.6%
salmeterol/ fluticasone	780,731	76.2%	1,033,299	86.0%	1,158,081	92.3%	1,311,242	95.1%	1,045,043	95.6%	905,511	95.2%	803,679	89.3%	740,647	84.9%	7,778,233	89.6%
Advair Diskus	780,731	100.0%	1,033,299		1,158,081	100.0%	1,311,242	100.0%	1,037,903	99.3%	813,938	89.9%	648,609	80.7%	547,962	74.0%	7,331,765	94.3%
100/50MCG	563,240	72.1%	742,521	71.9%	827,178	71.4%	947,002	72.2%	739,894	71.3%	571,602	70.2%	448,795	69.2%	372,500	68.0%	5,212,732	71.1%
250/50MCG	195,247	25.0%	262,934	25.4%	299,488	25.9%	332,403	25.4%	271,888	26.2%	221,082	27.2%	183,287	28.3%	160,639	29.3%	1,926,968	26.3%
500/50MCG	22,244	2.8%	27,844	2.7%	31,415	2.7%	31,837	2.4%	26,121	2.5%	21,254	2.6%	16,527	2.5%	14,823	2.7%	192,065	2.6%
Advair HFA									7,140	0.7%	91,573	10.1%	155,070	19.3%	192,685	26.0%	446,468	5.7%
115/21MCG									3,493	48.9%	44,081	48.1%	76,714	49.5%	96,904	50.3%	221,192	49.5%
45/21MCG									3,126	43.8%	39,386	43.0%	63,730	41.1%	75,339	39.1%	181,581	40.7%
230/21MCG									521	7.3%	8,106	8.9%	14,626	9.4%	20,442	10.6%	43,695	9.8%
budesonide/ formoterol											13,278	1.4%	74,591	8.3%	117,286	13.4%	205,155	2.4%
Symbicort											13,278	100.0%	74,591	100.0%	117,286	100.0%	205,155	100.0%
80/4.5MCG											7,386	55.6%	41,014	55.0%	63,046	53.8%	111,446	54.3%
160/4.5MCG											5,892	44.4%	33,577	45.0%	54,240	46.2%	93,709	45.7%
formoterol	32,936	3.2%	43,909	3.7%	57,008	4.5%	48,190	3.5%	38,830	3.6%	26,832	2.8%	17,915	2.0%	12,616	1.4%	278,236	3.2%
Foradil	32,936	100.0%	43,909	100.0%	57,008	100.0%	48,190	100.0%	38,830	100.0%	26,761	99.7%	17,060	95.2%	11,792	93.5%	276,486	99.4%
Perforomist											71	0.3%	855	4.8%	824	6.5%	1,750	0.6%
salmeterol	211,120	20.6%	124,582	10.4%	40,278	3.2%	19,185	1.4%	9,490	0.9%	5,524	0.6%	3,410	0.4%	2,231	0.3%	415,820	4.8%
Serevent Diskus	38,642	18.3%	45,919	36.9%	39,929	99.1%	19,161	99.9%	9,484	99.9%	5,524	100.0%	3,410	100.0%	2,231	100.0%	164,300	39.5%
Serevent	172,478	81.7%	78,663	63.1%	349	0.9%	24	0.1%	6	0.1%							251,520	60.5%

Source: SDI Vector One<sup>®</sup>: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 LABA age, prod, strength.xls

Table 3: Part 2: Total Dispensed Prescriptions for Salmeterol and Formoterol Products (LABAs) by Patient Age (12+ years old) from U.S. Outpatient Retail Pharmacies, Years 2002-2009

Molecule	Year 2	2002	Year 2	2003	Year 2	2004	Year 2	2005	Year 2	2006	Year 2	2007	Year 2	2008	Year 2	2009	1/2002-12	2/2009
Product	TRxs	Share	TRxs	Share														
Strength	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Age: 12+ years	14,534,137	93.2%	16,693,258	93.0%	17,592,396	92.6%	18,808,720	92.3%	18,863,212	94.1%	19,178,291	95.0%	20,046,785	95.5%	20,815,759	95.7%	146,532,558	94.0%
salmeterol/ fluticasone	9,365,970		12,852,070		14,855,661		16,807,254		17,156,162		17,557,355		17,515,539		17,332,342		123,442,353	
Advair Diskus	9,365,970		12,852,070		14,855,661		16,807,254		17,136,187		17,315,435		17,127,061		16,821,627	97.1%	122,281,265	99.1%
250/50MCG	4,422,390	47.2%	6,221,133	48.4%	7,576,077	51.0%	8,984,040	53.5%	9,525,701	55.6%	9,970,363		10,146,492		10,219,255	60.8%	67,065,451	54.8%
100/50MCG	3,370,291	36.0%	4,493,303	35.0%	4,812,825	32.4%	5,114,904	30.4%	4,781,847	27.9%	4,383,907	25.3%	3,969,560	23.2%	3,619,509	21.5%	34,546,146	
500/50MCG	1,573,289	16.8%	2,137,634	16.6%	2,466,759	16.6%	2,708,310	16.1%	2,828,639	16.5%	2,961,165	17.1%	3,011,009	17.6%	2,982,863	17.7%	20,669,668	16.9%
Advair HFA									19,975	0.1%	241,920	1.4%	388,478	2.2%	510,715	2.9%	1,161,088	0.9%
115/21MCG									13,420	67.2%	146,903	60.7%	218,408	56.2%	287,368	56.3%	666,099	57.4%
230/21MCG									2,220	11.1%	48,933	20.2%	99,433	25.6%	139,525	27.3%	290,111	25.0%
45/21MCG									4,335	21.7%	46,084	19.0%	70,637	18.2%	83,822	16.4%	204,878	17.6%
budesonide/ formoterol											174,250	0.9%	1,288,668	6.4%	2,469,753	11.9%	3,932,671	2.7%
Symbicort											174,250	100.0%	1,288,668	100.0%	2,469,753	100.0%	3,932,671	100.0%
160/4.5MCG											124,012	71.2%	946,484	73.4%	1,889,686	76.5%	2,960,182	75.3%
80/4.5MCG											50,238	28.8%	342,184	26.6%	580,067	23.5%	972,489	24.7%
salmeterol	4,788,059	32.9%	3,330,055	19.9%	2,119,081	12.0%	1,403,073	7.5%	1,033,207	5.5%	806,646	4.2%	667,685	3.3%	528,391	2.5%	14,676,197	10.0%
Serevent Diskus	440,952	9.2%	1,528,968	45.9%	2,110,518	99.6%	1,401,561	99.9%	1,032,894	100.0%	806,563	100.0%	667,642	100.0%	528,320	100.0%	8,517,418	58.0%
Serevent	4,347,107	90.8%	1,801,087	54.1%	8,563	0.4%	1,512	0.1%	313	0.0%	83	0.0%	43	0.0%	71	0.0%	6,158,779	42.0%
formoterol	380,108	2.6%	511,133	3.1%	617,654	3.5%	598,393	3.2%	673,843	3.6%	640,040	3.3%	574,893	2.9%	485,273	2.3%	4,481,337	3.1%
Foradil	380,108	100.0%	511,133	100.0%	617,654	100.0%	598,393	100.0%	673,843	100.0%	638,533	99.8%	551,113	95.9%	446,173	91.9%	4,416,950	98.6%
Perforomist											1,507	0.2%	23,718	4.1%	38,658	8.0%	63,883	1.4%
Formoterol													62	0.0%	442	0.1%	504	0.0%
<b>Unspecified Age</b>	43,262	0.3%	59,934	0.3%	159,023	0.8%	192,697	0.9%	82,735	0.4%	58,181	0.3%	51,805	0.2%	51,631	0.2%	699,268	0.4%

Source: SDI Vector One<sup>®</sup>: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 LABA age, prod, strength.xls

Table 4: Total Number of Unique Patients Receiving Salmeterol and Formoterol Products (LABAs) from U.S. Outpatient Retail Settings by Patient Age, Years 2002-2009

	200	2	200	3	200-	4	200	5	200	6	200	7	200	8	200	9	1/2002-12	2/2009
	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
LABA Total	4,945,119	100.0%	5,856,849	100.0%	5,783,787	100.0%	6,276,190	100.0%	5,962,981	100.0%	5,953,348	100.0%	6,296,403	100.0%	6,176,295	100.0%	23,155,541	100.0%
Age: 0-11 years	409,389	8.3%	489,502	8.4%	503,737	8.7%	545,606	8.7%	420,780	7.1%	369,575	6.2%	350,452	5.6%	322,478	5.2%	2,010,077	8.7%
salmeterol/	309,982	75.7%	420,589	85.9%	468,108	92.9%	522,705	95.8%	404,587	96.2%	351.925	95.2%	312,950	89.3%	275,257	85.4%	1,806,127	89.9%
fluticasone	307,702		420,307		400,100		322,703		1		,-				1		1,000,127	
Advair Diskus	309,982	100.0%	420,589	100.0%	468,108	100.0%	522,705	100.0%	399,953	98.9%	316,813	90.0%	258,060	82.5%	213,188	77.5%	1,707,237	94.5%
Advair HFA		0.0%		0.0%		0.0%		0.0%	5,689	1.4%	40,419	11.5%	60,844	19.4%	68,744	25.0%	128,266	7.1%
budesonide/		0.0%		0.0%		0.0%		0.0%		0.0%	8,755	2.4%	34,164	9.7%	47,002	14.6%	72,169	3.6%
formoterol											,				1		, i	
Symbicort		0.0%		0.0%		0.0%		0.0%		0.0%	8,755	100.0%	34,164	100.0%	47,002	100.0%	72,169	
formoterol	17,161	4.2%	23,059	4.7%	25,573	5.1%	19,722	3.6%	14,902	3.5%	10,870	2.9%	7,911	2.3%	5,524	1.7%	86,702	4.3%
Foradil	17,161	100.0%	23,059	100.0%	25,573	100.0%	19,722	100.0%	14,902	100.0%	10,829	99.6%	7,553	95.5%	5,198	94.1%	86,144	99.4%
Perforomist		0.0%		0.0%		0.0%		0.0%		0.0%	59	0.5%	388	4.9%	327	5.9%	652	0.8%
salmeterol	99,144	24.2%	62,047	12.7%	17,480	3.5%	7,979	1.5%	3,864	0.9%	2,229	0.6%	1,520	0.4%	1,011	0.3%	150,617	7.5%
Serevent	83,151	83.9%	45,212	72.9%	289	1.7%	22	0.3%	7	0.2%		0.0%		0.0%		0.0%	107,135	
Serevent Diskus	17,057	17.2%	24,565	39.6%	17,295	98.9%	7,970	99.9%	3,861	99.9%	2,229	100.0%	1,520	100.0%	1,011	100.0%	56,288	37.4%
Age: 12+ years	4,550,294	92.0%	5,368,093	91.7%	5,249,938	90.8%	5,693,294	90.7%	5,535,086	92.8%	5,581,714	93.8%	5,937,666	94.3%	5,784,241	93.7%	21,422,374	92.5%
salmeterol/	3,116,181	68.5%	4,329,906	80.7%	4,635,569	88.3%	5,269,725	92.6%	5,176,252	93.5%	5,212,784	93.4%	5,209,339	87.7%	4,774,535	82.5%	18,880,517	88.1%
fluticasone	2.116.101	100.007	4.220.006	100.00/	1.625.560	100.007	5.260.525	100.007	5.165.250	00.007	5 101 506	00.207	7,000,000	07.50/		06.004	10.605.621	00.007
Advair Diskus	3,116,181	100.0%	4,329,906	100.0%	4,635,569	100.0%	5,269,725	100.0%	5,165,250	99.8%	5,121,726	98.3%	5,080,909	97.5%	4,624,014	96.8%	18,685,631	99.0%
Advair HFA		0.0%		0.0%		0.0%		0.0%	16,713	0.3%	125,537	2.4%	163,245	3.1%	185,951	3.9%	387,177	2.1%
budesonide /formoterol		0.0%		0.0%		0.0%		0.0%		0.0%	115,864	2.1%	581,402	9.8%	965,761	16.7%	1,393,699	6.5%
Symbicort		0.0%		0.0%		0.0%		0.0%		0.0%	115,864	100.0%	581,402	100.0%	965,761	100.0%	1,393,699	100.0%
formoterol	145,054	3.2%	199,646	3.7%	198,463	3.8%	177,295	3.1%	190,567	3.4%	168,767	3.0%	155,115	2.6%	120,358	2.1%	835,208	3.9%
Formoterol	2 12,32 1	0.0%		0.0%	2,0,100	0.0%	211,422	0.0%	27 0,0 07	0.0%	200,101	0.0%	19	0.0%	64	0.1%	72	
Foradil	145,054	100.0%	199,646	100.0%	198,463	100.0%	177,295	100.0%	190,567	100.0%	167,859	99.5%	145,946	94.1%	107,544	89.4%	817,144	97.8%
Perforomist	, -	0.0%	,	0.0%	,	0.0%	,	0.0%	,	0.0%	1,141	0.7%	10,312	6.6%	13,265	11.0%	21,414	2.6%
salmeterol	1,593,166	35.0%	1,123,488	20.9%	571,228	10.9%	352,854	6.2%	252,088	4.6%	187,186	3.4%	157,839	2.7%	118,233	2.0%	2,600,029	12.1%
Serevent	1,462,803	91.8%	823,945	73.3%	5,979	1.0%	947	0.3%	226	0.1%	77	0.0%	38	0.0%	58	0.0%	1,780,977	68.5%
Serevent Diskus	143,647	9.0%	626,579	55.8%	568,309	99.5%	352,423	99.9%	251,987	100.0%	187,159	100.0%	157,822	100.0%	118,214	100.0%	1,335,752	51.4%
Unknown Age	19,012	0.4%	57,186	1.0%	118,766	2.1%	137,545	2.2%	84,361	1.4%	76,962	1.3%	80,931	1.3%	180,259	2.9%	487,043	2.1%

<sup>\*</sup>Subtotals may not sum exactly, due to rounding. Due to aging of patients during the study period ("the cohort effect"), patients may be counted more than once in the individual age categories. For this reason, summing across age bands is not advisable and will result in overestimates of patient counts

Source: SDI: Total Patient Tracker, 2002-2009, Extracted Feb10. Files: TPT 2010-207 pt by age, mol, product total.xls, TPT 2010-207 pt by age, mol, product years.xls, TPT LABA Patients -formoterol molecule years.xls, TPT LABA Patients formoterol only years.xls, TPT LABA Patients by age years.xls, TPT LABA Patients by age years.xls, TPT LABA Patients by age total.xls

Table 5: Total Dispensed Prescriptions for Salmeterol and Formoterol-containing products (LABAs) from U.S. Outpatient Retail Pharmacies by Prescribing Specialties, Years 2002-2009

	1/2002-12/2	2009
	TRxs	Share
	N	%
TOTAL MARKET	155,909,698	100.0%
GP/FM/DO	46,552,294	29.9%
IM	35,329,736	22.7%
PUD	19,791,181	12.7%
UNSPEC	12,177,097	7.8%
PED	10,941,365	7.0%
ALLER/IMMU	9,628,595	6.2%
NP	4,425,194	2.8%
PA	3,117,800	2.0%
ALLER	2,467,521	1.6%
HOSP	2,340,419	1.5%
All Others	9,138,496	5.9%

Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 LABA MD.xls

Table 6: Diagnoses Associated with the Use of Salmeterol and Formoterol-containing products (LABAs) in Number of Drug Uses by Patient Age As Reported by U.S. Office-Based Physician Practices, Years 2002-2009

	1/2002-	12/2009
	Uses	Share
	N(000)	%
TOTAL MARKET	100,273	100.0%
Age: 0-11 years	7,034	7.0%
4939 ASTHMA NOS	5,571	79.2%
7862 COUGH	319	4.5%
4900 BRONCHITIS NOS	290	4.1%
7860 DYSPNEA/RESPIRATORY ABN	143	2.0%
5191 OTH DIS TRACHEA /BRON	84	1.2%
4931 INTRINSIC ASTHMA	80	1.1%
All Others	546	7.8%
Age: 12+ years	93,239	93.0%
4939 ASTHMA NOS	52,492	56.3%
4960 CHR AIRWAY OBSTRUCT NEC	20,654	22.2%
4900 BRONCHITIS NOS	3,370	3.6%
7862 COUGH	2,711	2.9%
4919 CHRONIC BRONCHITIS NOS	2,271	2.4%
7860 DYSPNEA/RESPIRATORY ABN	1,995	2.1%
4912 OBSTRUCT CHR BRONCHITIS	1,362	1.5%
5191 OTH DIS TRACHEA /BRON	1,052	1.1%
All Others	7,331	7.9%

Source: SDI Physician Drug and Diagnosis Audit. Years 2002-2009. Extracted Feb2010. File: PDDA 2010-207 LABA DX.xls

Table 7 Part 1: Total Dispensed Prescriptions for Selected Inhaled Corticosteroid Products by Patient Age (0-11 years old) from U.S. Outpatient Retail Pharmacies, Years 2002-2009

Molecule	200	2	200	3	200	4	200	5	200	6	200	7	200	8	200	9	1/2002-12	2/2009
Product	TRxs	Share	TRxs	Share														
Strength	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
TOTAL MARKET	23,423,800	100.0%	25,559,437	100.0%	26,448,994	100.0%	28,017,214	100.0%	28,464,669	100.0%	29,525,722	100.0%	30,744,561	100.0%	32,287,075	100.0%	224,471,472	100.0%
Age: 0-11 years	3,854,491	16.5%	4,420,690	17.3%	4,675,101	17.7%	4.912.859	17.5%	4,730,677	16.6%	4,798,217	16.3%	4,923,014	16.0%	5,184,130	16.1%	37,499,179	16.7%
budesonide	1,599,924	41.5%	1,962,551	44.4%	2,083,633	44.6%	2,115,800	43.1%	2,095,603	44.3%	2,141,494	44.6%	2,147,092	43.6%	2,109,537	40.7%	16,255,634	43.3%
Pulmicort Respules	1,467,524	91.7%	1,817,333	92.6%	1,946,866	93.4%	1,986,773	93.9%	1,954,758	93.3%	1,994,963	93.2%	1,882,296	87.7%	1,399,587	66.3%	14,450,100	88.9%
0.5MG	636,054	43.3%	875,523	48.2%	1,018,358	52.3%	1,089,093	54.8%	1,103,525	56.5%	1,141,371	57.2%	1,080,513	57.4%	793,767	56.7%	7,738,204	53.6%
0.25MG	831,470	56.7%	941,810	51.8%	928,508	47.7%	897,680	45.2%	851,233	43.5%	846,961	42.5%	745,577	39.6%	529,681	37.8%	6,572,920	45.5%
1MG											6,631	0.3%	56,206	3.0%	76,139	5.4%	138,976	1.0%
Budesonide													100,119	4.7%	555,883	26.4%	656,002	4.0%
0.5MG													61,277	61.2%	350,747	63.1%	412,024	62.8%
0.25MG													38,842	38.8%	205,136	36.9%	243,978	37.2%
Pulmicort Flexhaler											74,631	3.5%	163,714	7.6%	153,965	7.3%	392,310	2.4%
180 MCG											55,386	74.2%	108,386	66.2%	92,351	60.0%	256,123	65.3%
90MCG											19,245	25.8%	55,328	33.8%	61,614	40.0%	136,187	34.7%
All Others	132,400	8.3%	145,218	7.4%	136,767	6.6%	129,027	6.1%	140,845	6.7%	71,900	3.4%	963	0.0%	102	0.0%	757,222	4.7%
fluticasone	1,317,968	34.2%	1,325,464	30.0%	1,323,567	28.3%	1,329,642	27.1%	1,324,036	28.0%	1,391,892	29.0%	1,486,352	30.2%	1,621,416	31.3%	11,120,337	29.7%
Flovent HFA							827,634	62.2%	1,312,841	99.2%	1,388,191	99.7%	1,475,110	99.2%	1,597,224	98.5%	6,601,000	59.4%
44MCG					-		517,730	62.6%	792,581	60.4%	841,856	60.6%	903,246	61.2%	988,245	61.9%	4,043,658	61.3%
110MCG							285,535	34.5%	477,695	36.4%	504,800	36.4%	530,209	35.9%	568,525	35.6%	2,366,764	35.9%
220MCG							24,369	2.9%	42,565	3.2%	41,535	3.0%	41,655	2.8%	40,454	2.5%	190,578	2.9%
Flovent Diskus											1,995	0.1%	10,653	0.7%	23,856	1.5%	36,504	0.3%
50MCG											1,995	100.0%	10,653	100.0%	19,740	82.7%	32,388	88.7%
100MCG															3,870	16.2%	3,870	10.6%
250MCG															246	1.0%	246	0.7%
All Others	1,317,968	100.0%	1,325,464	100.0%	1,323,567	100.0%	502,008	37.8%	11,195	0.8%	1,706	0.1%	589	0.0%	336	0.0%	4,482,833	40.3%
salmeterol/fluticasone	780,731	20.3%	1,033,299	23.4%	1,158,081	24.8%	1,311,242	26.7%	1,045,043	22.1%	905,511	18.9%	803,679	16.3%	740,647	14.3%	7,778,233	20.7%
Advair Diskus	780,731	100.0%	1,033,299	100.0%	1,158,081	100.0%	1,311,242	100.0%	1,037,903	99.3%	813,938	89.9%	648,609	80.7%	547,962	74.0%	7,331,765	94.3%
100/50MCG	563,240	72.1%	742,521	71.9%	827,178	71.4%	947,002	72.2%	739,894	71.3%	571,602	70.2%	448,795	69.2%	372,500	68.0%	5,212,732	71.1%
250/50MCG	195,247	25.0%	262,934	25.4%	299,488	25.9%	332,403	25.4%	271,888	26.2%	221,082	27.2%	183,287	28.3%	160,639	29.3%	1,926,968	26.3%
500/50MCG	22,244	2.8%	27,844	2.7%	31,415	2.7%	31,837	2.4%	26,121	2.5%	21,254	2.6%	16,527	2.5%	14,823	2.7%	192,065	2.6%
Advair HFA									7,140	0.7%	91,573	10.1%	155,070	19.3%	192,685	26.0%	446,468	5.7%
115/21MCG									3,493	48.9%	44,081	48.1%	76,714	49.5%	96,904	50.3%	221,192	49.5%
45/21MCG									3,126	43.8%	39,386	43.0%	63,730	41.1%	75,339	39.1%	181,581	40.7%
230/21MCG									521	7.3%	8,106	8.9%	14,626	9.4%	20,442	10.6%	43,695	9.8%
beclomethasone	78,471	2.0%	41,881	0.9%	74,084	1.6%	120,514	2.5%	180,153	3.8%	211,735	4.4%	248,493	5.0%	353,483	6.8%	1,308,814	3.5%
Qvar	11,915	15.2%	39,599	94.6%	74,049	100.0%	120,508	100.0%	180,153	100.0%	211,722	100.0%	248,493	100.0%	353,483	100.0%	1,239,922	94.7%
40MCG	8,021	67.3%	30,926	78.1%	56,392	76.2%	90,400	75.0%	133,190	73.9%	152,433	72.0%	176,513	71.0%	250,337	70.8%	898,212	72.4%
80MCG	3,894	32.7%	8,673	21.9%	17,657	23.8%	30,108	25.0%	46,963	26.1%	59,289	28.0%	71,980	29.0%	103,146	29.2%	341,710	
All Others	66,556	84.8%	2,282	5.4%	35	0.0%	6	0.0%			13	0.0%					68,892	5.3%
mometasone							4,034	0.1%	53,141	1.1%	98,262	2.0%	130,192	2.6%	216,822	4.2%	502,451	1.3%
Asmanex							4,034	100.0%	53,141	100.0%	98,262	100.0%	130,192	100.0%	216,822	100.0%	502,451	
110MCG													29,623	22.8%	128,101	59.1%	157,724	31.4%
220MCG							4,034	100.0%	53,141	100.0%	98,262	100.0%	100,569	77.2%	88,721	40.9%	344,727	68.6%
budesonide/formoterol											13,278	0.3%	74,591	1.5%	117,286	2.3%	205,155	0.5%
Symbicort											13,278	100.0%	74,591	100.0%	117,286	100.0%	205,155	100.0%
80/4.5MCG											7,386	55.6%	41,014	55.0%	63,046	53.8%	111,446	54.3%
160/4.5MCG											5,892	44.4%	33,577	45.0%	54,240	46.2%	93,709	45.7%
All Others	77,397		57,495		35,736		31,627	0.6%	32,701	0.7%	36,045	0.8%	32,615	0.7%	24,939	0.5%	328,555	0.9%

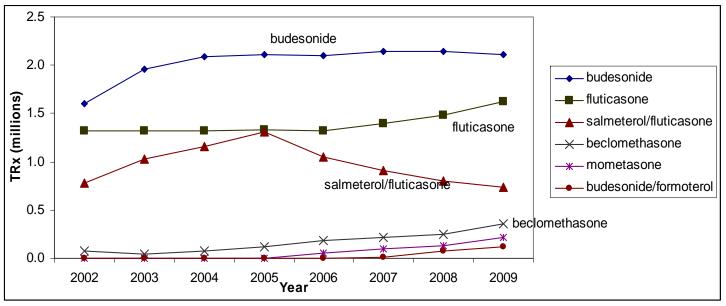
Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 ICS age, prod, strength1.xls

Table 7 Part 2: Total Dispensed Prescriptions for Selected Inhaled Corticosteroid Products by Patient Age (12+ years old) from U.S. Outpatient Retail Pharmacies, Years 2002-2009

	TRxs	C.I						5	200	•	200	,	200	O	200	,	1/2002 12	2/2009
Stuanath	LIVAS	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share	TRxs	Share
Strength	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<b>Age: 12+ years</b> 19,4	479,132	83.2%	21,042,878	82.3%	21,537,199	81.4%	22,822,492	81.5%	23,592,955	82.9%	24,623,752	83.4%	25,727,551	83.7%	27,006,979	83.6%	185,832,938	82.8%
salmeterol/fluticasone 9,3	365,970	48.1%	12,852,070	61.1%	14,855,661	69.0%	16,807,254	73.6%	17,156,162	72.7%	17,557,355	71.3%	17,515,539	68.1%	17,332,342	64.2%	123,442,353	66.4%
Advair Diskus 9,3	365,970	100.0%	12,852,070	100.0%	14,855,661	100.0%	16,807,254	100.0%	17,136,187	99.9%	17,315,435	98.6%	17,127,061	97.8%	16,821,627	97.1%	122,281,265	99.1%
250/50MCG 4,4	422,390	47.2%	6,221,133	48.4%	7,576,077	51.0%	8,984,040	53.5%	9,525,701	55.6%	9,970,363	57.6%	10,146,492	59.2%	10,219,255	60.8%	67,065,451	54.8%
<b>100/50MCG</b> 3,3°	370,291	36.0%	4,493,303	35.0%	4,812,825	32.4%	5,114,904	30.4%	4,781,847	27.9%	4,383,907	25.3%	3,969,560	23.2%	3,619,509	21.5%	34,546,146	28.3%
<b>500/50MCG</b> 1,5°	573,289	16.8%	2,137,634	16.6%	2,466,759	16.6%	2,708,310	16.1%	2,828,639	16.5%	2,961,165	17.1%	3,011,009	17.6%	2,982,863	17.7%	20,669,668	16.9%
Advair HFA									19,975	0.1%	241,920	1.4%	388,478	2.2%	510,715	2.9%	1,161,088	0.9%
115/21MCG									13,420	67.2%	146,903	60.7%	218,408	56.2%	287,368	56.3%	666,099	
230/21MCG									2,220	11.1%	48,933	20.2%	99,433	25.6%	139,525	27.3%	290,111	25.0%
45/21MCG									4,335	21.7%	46,084	19.0%	70,637	18.2%	83,822	16.4%	204,878	17.6%
fluticasone 5,99	929,749	30.4%	4,979,449	23.7%	3,916,532	18.2%	3,358,482	14.7%	3,092,671	13.1%	2,971,354	12.1%	2,921,384	11.4%	3,092,986	11.5%	30,262,607	16.3%
Flovent HFA							2,047,973	61.0%	3,053,991	98.7%	2,962,139	99.7%	2,909,358	99.6%	3,059,886	98.9%	14,033,347	46.4%
110MCG							1,153,461	56.3%	1,700,197	55.7%	1,626,043	54.9%	1,599,960	55.0%	1,693,610	55.3%	7,773,271	55.4%
220MCG							562,331	27.5%	874,034	28.6%	876,475	29.6%	850,190	29.2%	876,748	28.7%	4,039,778	28.8%
44MCG							332,181	16.2%	479,760	15.7%	459,621	15.5%	459,208	15.8%	489,528	16.0%	2,220,298	15.8%
Flovent Diskus											1,917	0.1%	10,279	0.4%	32,340	1.0%	44,536	0.1%
50MCG											1,917	100.0%	10,260	99.8%	17,650	54.6%	29,827	67.0%
100MCG													7	0.1%	9,595	29.7%	9,602	21.6%
250MCG			4.070.440	100.007		100.007		20.007		7.20/	7.200	0.20/	12	0.1%	5,095	15.8%	5,107	11.5%
	929,749	100.0%	4,979,449	100.0%	3,916,532	100.0%	1,310,509	39.0%	38,680	1.3%	7,298	0.2%	1,747	0.1%	760	0.0%	16,184,724	53.5%
budesonide/formoterol											174,250	0.7%	1,288,668	5.0%	2,469,753	9.1%	3,932,671	2.1%
Symbicort											174,250	100.0%	1,288,668	100.0%	2,469,753	100.0%	3,932,671	100.0%
160/4.5MCG											124,012	71.2% 28.8%	946,484	73.4%	1,889,686	76.5% 23.5%	2,960,182 972,489	75.3%
80/4.5MCG		 5 10/	1.052.202	5.00/	1.061.410	4.007	1 020 202	4.50/	1.047.120	4.40/	50,238		342,184	26.6%	580,067		,	24.7%
	992,733	5.1%	1,052,392	5.0%	1,061,419	4.9%	1,030,392	4.5%	1,047,138	4.4%	1,089,665	4.4%	1,185,053	4.6%	1,309,845	4.9%	8,768,637	4.7% 17.8%
Pulmicort Flexhaler											280,705 258,895	25.8% 92.2%	640,725 576,917	54.1% 90.0%	638,771 558,669	48.8% 87.5%	1,560,201 1,394,481	89.4%
180 MCG 90MCG											238,893	7.8%	63,808	10.0%	80,102	12.5%	1,394,481	10.6%
	166,309	16.8%	273,784	26.0%	368,778	34.7%	390,447	37.9%	413,630	39.5%	482,444	44.3%	517,516	43.7%	497,742	38.0%	3,110,650	
	127.053	76.4%	217,749	79.5%	300,138	81.4%	323,728	82.9%	347,383	84.0%	402,745	83.5%	419,274	81.0%	385,551	77.5%	2,523,621	81.1%
	39,256	23.6%	56,035	20.5%	68,640	18.6%	66,719	17.1%	66,247	16.0%	77,660	16.1%	73,453	14.2%	67,073	13.5%	515,083	16.6%
1MG	37,230	23.070	50,055	20.570		10.070		17.170		10.070	2,039	0.4%	24,789	4.8%	45,118	9.1%	71.946	2.3%
Budesonide											2,037		22,260	1.9%	172,769	13.2%	195,029	2.2%
0.5MG													19,314	86.8%	150,828	87.3%	170,142	87.2%
0.25MG													2,946	13.2%	21,941	12.7%	24,887	12.8%
	826,424	83.2%	778,608	74.0%	692,641	65.3%	639,945	62.1%	633,508	60.5%	326,516	30.0%	4,552	0.4%	563	0.0%	3,902,757	44.5%
mometasone							51,448	0.2%	724,874	3.1%	1,314,380	5.3%	1,350,449	5.2%	1,280,734	4.7%	4,721,885	2.5%
Asmanex							51,448	100.0%	724,874	100.0%	1,314,380	100.0%	1,350,449	100.0%	1,280,734	100.0%	4,721,885	100.0%
220MCG							51,448	100.0%	724,874	100.0%	1,314,380	100.0%	1,339,552	99.2%	1,229,510	96.0%	4,659,764	98.7%
110MCG													10,897	0.8%	51,224	4.0%	62,121	1.3%
beclomethasone 73	785,596	4.0%	292,567	1.4%	356,091	1.7%	487,454	2.1%	654,841	2.8%	733,040	3.0%	804,249	3.1%	1,007,460	3.7%	5,121,298	2.8%
Qvar 1	118,276	15.1%	260,787	89.1%	355,533	99.8%	487,274	100.0%	654,744	100.0%	732,987	100.0%	804,226	100.0%	1,007,444	100.0%	4,421,271	86.3%
	74,729	63.2%	150,469	57.7%	225,642	63.5%	324,901	66.7%	443,322	67.7%	500,004	68.2%	549,349	68.3%	694,518	68.9%	2,962,934	67.0%
40MCG	43,547	36.8%	110,318	42.3%	129,891	36.5%	162,373	33.3%	211,422	32.3%	232,983	31.8%	254,877	31.7%	312,926	31.1%	1,458,337	33.0%
All Others 6	667,320	84.9%	31,780	10.9%	558	0.2%	180	0.0%	97	0.0%	53	0.0%	23	0.0%	16	0.0%	700,027	13.7%
triamcinolone 1,8	840,728	9.4%	1,423,588	6.8%	1,019,759	4.7%	841,930	3.7%	731,270	3.1%	635,937	2.6%	543,557	2.1%	351,775	1.3%	7,388,544	4.0%
Azmacort 1,8	840,728	100.0%	1,423,588	100.0%	1,019,759	100.0%	841,930	100.0%	731,270	100.0%	635,937	100.0%	543,557	100.0%	351,775	100.0%	7,388,544	100.0%
75MCG													46,822	8.6%	310,300	88.2%	357,122	4.8%
100MCG 1,8	840,728	100.0%	1,423,588	100.0%	1,019,759	100.0%	841,930	100.0%	731,270	100.0%	635,937	100.0%	496,735	91.4%	41,475	11.8%	7,031,422	95.2%
All Others 5	564,356	2.9%	442,812	2.1%	327,737	1.5%	245,532	1.1%	185,999	0.8%	147,771	0.6%	118,652	0.5%	162,084	0.6%	2,194,943	1.2%
in Juicis		0.4%	95,869	0.4%	236,694	0.9%	281,863	1.0%	141,037	0.5%	103,753	0.4%	93,996	0.3%	95,966	0.3%	1,139,355	0.5%

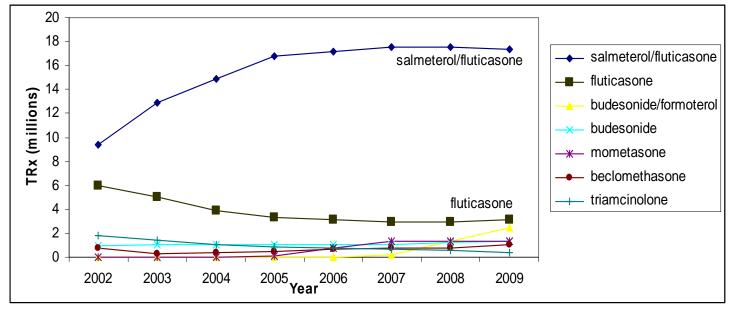
Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 ICS age, prod, strength1.xls

Figure 3: Total Dispensed Prescriptions for Selected Inhaled Corticosteroid Products in the Pediatric Population (0-11 years), Years 2002-2009



Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 ICS age, prod, strength1.xls

Figure 4: Total Dispensed Prescriptions for Selected Inhaled Corticosteroid Products in the 12+ Years Patient Population, Years 2002-2009



Source: SDI Vector One®: National. Years 2002-2009, extracted Feb2010. File: VONA 2010-207 ICS age, prod, strength1.xls

Application Type/Number	Submission Type/Number	Submitter Name	Product Name
SAFETY-351	ORIG-1	NO FIRM	SALMETEROL XINAFOATE
			d that was signed on of the electronic
/s/			
GRACE P CHAI 02/18/2010			
LAURA A GOVEF 02/18/2010	RNALE		

Drug use data cleared for public release.